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Montana Water Pollution Control Report

SUMMARY OF STATE AND FEDERAL WATER POLLUTION CONTROL LAWS

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WATER POLLUTION CONTROL LEGISLATION

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STATUS OF MUNICIPAL AND INDUSTRIAL DISCHARGERS

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Water Quality Bureau
Environmental Sciences Division
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MONTANA STATE DEPARTMENT OF HEALTH
AND
ENVIRONMENTAL SCIENCES

SUMMARY OF STATE AND FEDERAL WATER POLLUTION CONTROL LAWS AND REGULATIONS

Montana's first water pollution control law was adopted in 1907; however, the law was only applicable for the protection of domestic water supplies. In 1955, a comprehensive water pollution control law was enacted which also gave protection to other beneficial uses such as fishing and wildlife, recreation, industrial and agricultural water uses. The 1955 law established a water pollution control council to establish rules and regulations to guide the program administered by the Department of Health. In 1971, the water pollution control law was revised and duties of the council were transferred to the Department and Board of Health, and the council was made advisory.

One of the duties of the Water Pollution Control Council was to classify the streams of the state according to their most beneficial uses and establish water quality criteria for the streams. Following a broad stream survey of the major streams in the state by the department and public hearings, the classification work was substantially completed by 1960. With but a few minor exceptions, streams of the state were to be kept in a suitable condition for water supply, fishing and recreation, agricultural and industrial water supply. This required treatment of many of the wastes not previously treated and additional treatment of some of the wastes previously treated. Montana became one of the first states to have enforceable stream classifications.

Congress in 1965 passed the Federal Water Quality Act which required that all states classify and establish water quality criteria for their interstate streams by July 1, 1967. The Water Pollution Control Council decided to revise existing classifications and water quality criteria before submittal to the federal government since ten years' experience had shown some areas where the existing standards could be improved. For example, it was felt that a higher dissolved oxygen content was desirable for a trout fishery. Following a public hearing in Helena during May 1967, revised classifications and water quality criteria were adopted for both interstate and intrastate waters. The interstate standards were later approved by the federal government.

The revised standards required a higher degree of stream quality than the original standards. Also, new minimum treatment requirements were established which required at least the equivalent of secondary treatment for sewage and industrial wastewaters. The prior minimum requirement was primary treatment followed by adequate disinfection. Primary treatment removes solids by settling. Secondary treatment provides additional removal of organic solids usually by biological action.

During October 1972, congress adopted new federal water pollution control legislation. This in effect gives considerable more authority to the Environmental Protection Agency (EPA) in an attempt to provide uniform water quality standards and enforcement procedures throughout the United States. For example, industrial waste dischargers throughout the United States manufacturing the same product will have uniform discharge requirements based on the amount of product produced. The law also required minor revisions in the state water quality standards and these changes became official on November 4, 1973.

Further changes in the state water pollution control act were made in 1973 to meet federal requirements for the state to administer the National Pollutant Discharge Elimination System (NPDES) program.

WATER POLLUTION CONTROL ACTIVITIES

WASTE DISCHARGE PERMITS

State wastewater discharge permits are required for all domestic sewage, industrial wastewaters, and wastewaters from confined animal feeding operations which are discharged to state surface waters. Montana law requires that any wastewater discharger must have a valid permit from the department. This is an effective tool for regulating discharge of wastewaters. The wastewater discharge permit requires operation of the treatment facility in an efficient manner. Where appropriate, it requires sampling and analysis of the discharged wastewater along with periodic reports. Dischargers which do not have adequate treatment facilities are placed on compliance plans for providing adequate facilities.

SEWAGE DISPOSAL

Sewage Treatment

Before 1950, there were very few sewage treatment facilities in the state. When present, these were usually in the form of a septic tank with discharge to a surface water stream. During the late 1940's and early 1950's, the Board of Health required many of the cities to construct primary treatment facilities. At about the same time, the sewage lagoon became an important sewage treatment process to the smaller communities. Complex mechanical plants were installed in a few of the smaller communities prior to the use of the sewage lagoon and had accomplished little because of the skilled operation and maintenance that were needed and not provided. The sewage lagoon provided a treatment that was in many cases equal to secondary treatment with very little operation and maintenance required. Over 100 sewage lagoons have been constructed in the state to date. The larger cities have constructed, are constructing or planning for mechanical secondary sewage treatment facilities.

The Board of Health has adopted a compliance schedule for those communities which are in need of new or immediate improvements to existing sewage treatment facilities. The communities, their completion compliance schedules and status are summarized below:

<u>COMMUNITY</u>	<u>COMPLIANCE COMPLETION DATE</u>	<u>STATUS</u>
Bearcreek	July 1, 1977	No action yet taken.
Billings	July 1, 1976	Under construction.
Bozeman	October 1, 1976	Preliminary work for design underway.

<u>COMMUNITY</u>	<u>COMPLIANCE COMPLETION DATE</u>	<u>STATUS</u>
East Glacier	October 1, 1976	Preliminary engineering underway.
Eureka	July 1, 1977	Preliminary engineering underway.
Galen - State Hospital	January 1, 1974	Contract should be awarded during 1974 for chlorination.
Great Falls	October 1, 1976	Under construction.
Hamilton	October 1, 1976	Preliminary engineering completed.
Havre	January 1, 1975	Under construction.
Helena	July 1, 1974	Under construction.
Hinsdale	July 1, 1974	Under construction.
Judith Gap	July 1, 1977	No action yet taken.
Kalispell	July 1, 1974	Under construction.
Laurel	July 1, 1977	Preliminary engineering completed.
Lewistown	July 1, 1977	Preliminary engineering completed.
Libby	July 1, 1977	Preliminary engineering completed.
Livingston	July 1, 1977	Preliminary engineering completed.
Missoula	July 1, 1974	Under construction.
Ramsay	July 1, 1974	Construction planned for 1973-74.
Rocker	October 1, 1976	No action yet taken.
Sunburst	July 1, 1977	No action yet taken.
Three Forks	January 1, 1976	Plans and specifications completed for first phase.
Townsend	October 1, 1976	Preliminary planning completed.
Vaughn	July 1, 1975	Construction planned for 1974.

On August 17, 1973, secondary treatment regulations defining secondary treatment were adopted by EPA. These regulations require all facilities discharging domestic sewage to provide a minimum of 85 percent biochemical oxygen demand (BOD - a measure of organic material), an effluent having an average of less than 30 milligrams per liter of BOD and suspended solids, and less than 200 fecal coliforms per 100 milliliters. This requirement will require additional treatment of many of the sewage lagoon discharges by July 1, 1977. Prior to these requirements, sewage lagoons which were designed and operated in accordance with state guidelines were considered to provide adequate treatment.

Many of the communities have extreme infiltration problems. This occurs where the groundwater table is high and sewers are not tight. This excess water, which enters the sewer system, causes treatment facilities to become overloaded and treatment efficiency to fall off. Communities which are known to have this problem are:

Absarokee	Joliet	Red Lodge
Bozeman	Kalispell	Roberts
Darby	Laurel	Sheridan
Deer Lodge	Lavina	Stevensville
Drummond	Lewistown	Three Forks
East Helena	Livingston	Townsend
Hamilton	Manhattan	Whitefish
Hot Springs	Missoula	

Prior to enactment of the 1972 federal legislation, reduction of infiltration water in sewer systems in most cases was not an eligible item for an EPA grant. It is an eligible item under the new legislation, and this should assist greatly in getting these problems corrected. Reducing infiltration water is usually very costly.

Many of our smaller communities do not have sewer systems. Those known to be in immediate need of sewer systems are:

Amsterdam-Churchill	Geyser	Opportunity
Ashland	Highwood	Outlook
Basin	Hungry Horse	Plains
Clancy	Kremlin	Sand Coulee
Clyde Park	Lakeside	Seeley Lake
Cooke City	Lincoln	Simms
Corvallis	Lolo	Somers
Divide	Martin City	Stockett
Dixon	Martinsdale	Troy
Flaxville	Moore	Ulm
Florence	Neihart	Victor
		Willow Creek

Construction Grants

In 1956, the federal government established a grant program which provided 30 percent of the construction costs of sewage treatment facilities. Applications under this grant program were processed by the Department of Health, and if approved, were submitted to the federal government for grant offers. Priorities

for the projects are established by the Department of Health using the formula which follows federal guidelines. The Federal Water Quality Act of 1965 changed the grant provisions to provide an increase in federal grant to 50 to 55 percent for states which provided a 25 percent grant. The 1971 state legislature appropriated \$4 million to allow Montana's municipalities to obtain these additional grant funds. Forty communities were initially offered state grants under this program, and this greatly accelerated sewage treatment construction in the state. The 1972 federal legislation, however, provides 75 percent grants to eligible communities, even without a state matching grant. It also allowed the state to exchange some of the state grant money for federal money, and \$2.8 million was finally offered to municipalities of the original \$4 million. Communities which will receive state grants under this program are:

Town of Medicine Lake
Yellowstone Co. Rural Special
Improvement District #524
(Yellowstone Boys Ranch)
Lambert Water and Sewer District
City of Whitefish
Town of Kevin
City of Polson (SID-14)
Park Co. Rural Improvement District,
Gardiner
Town of Wibaux

City of Plentywood
City of Conrad
Town of Dutton
City of Havre
City of Missoula
City of Kalispell
Confederated Salish & Kootenai
Tribes, Pablo
City of Red Lodge
City of Great Falls
City of Billings
Crow Agency
City of Helena

In addition, the 1973 legislature appropriated \$1,653,000 to reimburse municipalities which had started construction of sewage treatment projects in the period July 1, 1966 to July 1, 1970. Most of these communities will have additional needs in order to meet the 1972 federal mandate. Municipalities expected to receive grants under this program are:

Alberton
Yellowstone Co. RSID 504
(Ballantine)
Carbon Co. RID 5 (Belfry)
Boulder
Bozeman
Broadview
Silver Bow Co. Metro (Butte)
Cascade
Columbia Falls
Conrad (SID)
Yellowstone Co. RSID 515 (Custer)
Carbon Co. RID 6 (Edgar)
Ennis
Fairview
Prairie Co. Sewer District
(Fallon)
Hysham
Jordan
Kalispell

Lavina
Libby
Missoula Co. RSID 181
(Lolo Subdivision)
Manhattan
Stillwater Co. RSID 8
(Park City)
Plentywood
Polson
Ryegate
Richland Co. RID (Savage)
Scobey
Superior
Thompson Falls
Blaine Co. W and S District #1
(Turner)
Dawson Co. RID 10 (W. Glendive)
Whitefish
Winnett

Operator Certification

In 1967, the legislature passed a law requiring all operators in responsible charge of water supply facilities and sewage and industrial wastewater treatment facilities to be certified. This is a program administered by the Department of Health. The program is aiding in improving the qualities of operators. At the present time, there are 418 licensed wastewater treatment operators. Many of these were licensed under the grandfather clause; but since enactment of this law, 175 operators are certified by examination.

Operator Training

Each year a water and wastewater works operators' school is held in Bozeman in cooperation with the Civil Engineering Department at Montana State University. This is a week-long school for the operators. In addition to this, two instructors are employed by the Department of Health through a grant obtained from EPA. These instructors select a location where ten to twenty operators can attend a class one evening a week. The rest of the instructors' time is spent in on-the-job training. This course lasts 22 weeks at each selected location. There is a real need for well trained operators as these men are managing and operating utilities that are important to the health and welfare of the communities. Also, it makes no sense to provide huge capital expenditures for sewage treatment facilities that will be operated at low efficiencies if poorly trained people are operating them. For the most part, Montana's operators are knowledgeable and skillful in their job and are anxious to learn how to do a better job.

To further aid in providing information to the operators, the Department of Health in cooperation with the Montana Section of the American Water Works Association and the Montana Water Pollution Control Federation publishes a quarterly newsletter for the operators.

INDUSTRIAL WASTEWATERS

Industrial wastewater dischargers are regulated by the Department of Health through the wastewater discharge permit program. Substantial progress, particularly during the last five years, has been made by Montana's industries towards improving water quality. The following industries are on compliance schedules with the Board of Health to provide additional treatment improvements:

<u>INDUSTRY</u>	<u>COMPLIANCE COMPLETION DATE</u>	<u>STATUS</u>
Consolidated Dairies, Ronan	January 1, 1975	Whey drier recently installed which eliminates major source of wastewater discharge. Cleanup water still needs treatment.
Hoerner-Waldorf Corp., Missoula	May 1, 1975	Additional BOD removal required. These facilities are presently being designed.

<u>INDUSTRY</u>	<u>COMPLETION COMPLIANCE DATE</u>	<u>STATUS</u>
Great Western Sugar Co., Billings	October 1, 1974 (New interim and pretreatment facilities should be provided by this date. Additional compliance date to be established by EPA and state for connection to city or equivalent treatment.)	Pilot plant for testing of new interim and pretreatment facility being tested during this refining campaign. Company is negotiating with city for discharge of pretreated wastewaters to city system. Aerated lagoons being used as temporary treatment method.

Guidelines for national discharge limits for various industrial wastewaters are being developed by EPA. To meet these guidelines, substantial improvements above those already obtained by the state will probably be needed by the Anaconda Company at Great Falls, John R. Daily meat company at Missoula, and St. Regis Paper Company (lumber division) at Libby. Minor improvements will be needed at some of the others.

AGRICULTURAL WASTEWATERS

During 1972, following public hearings, a wastewater discharge permit program was adopted by the Board of Health for confined animal feeding. This requires a feedlot to have a waste discharge permit if it has the potential for creating water pollution or air pollution. New or expanding feedlots come under the program immediately and existing feedlots must have a waste discharge permit by June of 1974. New feedlots which are located properly have little expense in meeting the water and air quality standards. Guidelines have been written to aid the operators of feedlots in finding methods to control pollution.

SUBDIVISIONS

A major activity of the department during recent years has been with new subdivisions. In 1961, legislation was enacted which required that a sanitary restriction be placed on a subdivision when it is filed with the county. Before the sanitary restriction is removed, the department must determine that an adequate water supply and sewage disposal facilities will be provided. The 1973 legislature revised this law and approval of adequate sanitary facilities must be obtained before a subdivision plat is accepted by the county.

OTHER SOURCES OF POLLUTION

The principal degradation of Montana's streams is that due to land runoff (mainly sediment). Some is natural and uncontrollable, while a large part

is due to man's activities and to a large extent is controllable. Land erosion due to poor irrigation and other farming practices, logging, road construction and building construction are some examples of this. Most are a result of poor planning initially and some are due to poor location. Proper land use controls, including planning and zoning, are needed. Regulations may be needed where, perhaps, permits are required for any construction which might create erosion and degradation of water quality.

Spills due to accidents such as railroad derailments and pipeline breaks are another source of pollution which is very difficult to prevent. The department works closely with EPA and other agencies in trying to keep effects of this source to a minimum.

ENFORCEMENT

The principal means of enforcement is through the state waste discharge permit program and/or violation of the state's water quality standards. Section 69-4806 states:

It is unlawful to:

- (1) cause pollution as defined in section 69-4802 (5), R.C.M., 1947, of any state waters or to place or cause to be placed any wastes in a location where they are likely to cause pollution of any state waters;*
- (2) carry on any of the following activities without a current permit from the department:*
 - (a) construct, modify, or operate a disposal system which discharges to any state waters, or*
 - (b) construct or use any outlet for the discharge of sewage, industrial wastes, or other wastes to any state waters; or*
- (3) violate any limitations imposed by a current permit.*

Section 69-4802 (5) states:

"Pollution" means such contamination, or other alteration of the physical, chemical or biological properties, of any state waters, as exceeds that permitted by Montana water quality standards, including but not limited to standards relating to change in temperature, taste, color, turbidity, or odor, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any state waters as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to public health, recreation, safety, or welfare, or to livestock, wild animals, birds, fish or other wildlife, provided, however, that any discharge which is permitted by Montana water quality standards is not "pollution" for the purposes of this chapter.

SURVEILLANCE

Over the past years, there has been little money available for a good surveillance program. With the increase of budget provided by the federal government, a substantial increase in this activity is being accomplished. Surveillance activities are being concentrated in areas where water quality management plans are being completed. Under the surveillance program, discharges of wastewaters are being monitored, and stream water quality is being measured. Laboratory capabilities are being improved by the addition of personnel and better instrumentation. Water testing is an expensive operation, and the monitoring sites must be carefully selected to get the most information for the amount of money available for this activity. A Department of Fish and Game biologist works with the bureau staff in order to coordinate the efforts of the two departments in surveillance.

WATER QUALITY MANAGEMENT PLANNING

During 1970, the EPA issued regulations which required water quality management plans to be completed for all areas where a community is requesting a federal grant. The purpose of this regulation was to assure that all wastewaters are being treated rather than just municipal wastewater discharges. Until July 1, 1975, interim basin water quality management plans are acceptable for this purpose. These interim plans utilize data that is already available and outlines the work needed to complete the final basin planning. The final basin plan must contain extensive waste discharge and stream water quality data and provide recommendations and priorities for improving the water quality. These plans, when completed, will be the guidelines for the future water pollution control program.

BRANCH OFFICES

In 1963, a branch office was established at Billings to work principally on water pollution control problems in the Yellowstone River drainage. Communities downstream from Billings at that time were experiencing taste and odors in their public water supplies, which were due principally to industrial waste discharges. These wastewaters are being treated to a point now where this condition has been eliminated. Work is continuing on improving water quality in the Yellowstone River. This includes surveillance and water quality management planning activities along with inspections and plan review.

In 1969, an office was established at Kalispell to work on water quality problems in that area. Principal activities at this time is work concerning subdivisions and recreational development along with surveillance and water quality management planning.

COORDINATION OF FEDERAL AND STATE PROGRAMS

With the passage of the 1972 federal water pollution control act, coordination of federal and state programs became increasingly important. As mentioned previously, EPA planning requirements must be met by the state and

municipalities before construction grants can be obtained. This work must be closely coordinated. Cooperative monitoring programs have been established. An agreement with EPA has been signed which provides for state review of plans and specifications for construction grant projects where formerly dual review was performed.

The NPDES waste discharge permit program is presently being started by EPA in the state, and all wastewater discharges are scheduled to be under federal permit by January 1, 1975. The federal law allows for states having adequate wastewater discharge permit laws and regulations to administer the program under EPA guidance. The department is presently developing regulations to meet these federal requirements. Since early 1972, an engineer employed by EPA has worked with the staff of the Water Quality Bureau to keep duplication of state and federal permit activities to a minimum. Administration of the NPDES program by the state will further reduce duplication of activities.